



1497 Rec'd PCT/PTO 06 FEB 2006

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Applicant

WHITE, et al.

Confirmation No.: 5578

Group Art Unit: TBA

Serial No.: 10/518,188

Examiner: TBA

Filed: December 16, 2004

Docket No.: 62020-1800

For: ADSORBENTS, METHODS OF PREPARATION, AND METHODS OF USE THEREOF

**INFORMATION DISCLOSURE STATEMENT**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

This information disclosure statement is filed in accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, and specifically:

- ☒ under 37 CFR 1.97(b), or  
(within Three months of filing national application; or date of entry of international application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:  
☐ Statement Under 37 C.F.R. 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97(b) time period, but before the final office action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97(d) together with a:  
☐ Statement under 37 CFR 1.97(e), and  
☐ a \$180.00 petition fee set forth in 37 CFR 1.17(p).  
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Please charge \$ to deposit account . At any time during the pendency of this application, please charge any fees required to Deposit Account 20-0778 pursuant to 37 CFR 1.25. The Commissioner is hereby requested to credit any overpayment to Deposit Account No. 20-0778.

- ☒ Applicant(s) submit herewith *Form PTO 1449A - Information Disclosure Statement by Applicant* together with copies (where required) of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may or may not be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56. As required by 37 C.F.R. §1.98(a), a legible copy of each document is provided.

- ☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individual(s) designated in 37 CFR 1.56(c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on the form PTO 1449 and is enclosed herewith.

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- 1 MAR 2006

Legal Staff  
International Division

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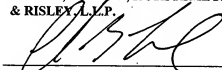
This statement should not be construed as a representation that an exhaustive search has been made, or that information more material to the examination of the present application does not exist. Any statements or identifications regarding the relevance of any portion(s) of cited references should not be construed as a representation that the most relevant portion(s) have been identified, and the absence of such statements or identifications should not be construed as representations that there are no relevant portion(s). The Examiner is specifically requested not to rely solely on the materials submitted herewith. The Examiner is requested to conduct an independent and thorough review of the documents, and to form independent opinions as to their significance.

It is requested that the information disclosed herein be made of record in this application and that the Examiner initial and return a copy of the enclosed PTO-1449 to indicate the documents have been considered.

Respectfully Submitted,

THOMAS, KAYDEN, HORSTEMEYER  
& RISLEY, L.L.P.

By:

  
Christopher B. Linder, Reg. No. 47,751

100 Galleria Parkway, Suite 1750  
Atlanta, Georgia 30339-5948  
770-933-9500

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Form PTO-1449

Attorney's Packet No.  
**62020-1800**Serial No.  
**10/518,188**Applicant  
**WHITE, et al.**Filing Date  
**December 16, 2004**Group  
**TBA****INFORMATION DISCLOSURE CITATION**

(Use several sheets if necessary)

**U.S. PATENT DOCUMENTS**

Examiner Initials	Item	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	A	1,831,731	11/10/31	Jan AI			2/20/30
	B	3,141,729	7/21/64	Clarke, et al.	23	4	7/11/60
	C	3,511,595	5/12/70	Warren Fuchs	53	4	5/18/67
	D	3,865,924	2/11/75	Gidaspow, et al.	423	230	3/3/72
	E	4,201,751	5/6/80	Holter, et al.	423	210	10/21/77
	E	4,433,981	2/28/84	Slugh, et al.	55	59	6/26/81
	C	4,493,715	1/15/85	Hogan, et al.	423	230	3/30/84
	H	5,091,358	2/25/92	Birbara, et al.	402	412	6/27/90
	I	5,186,727	2/16/93	Chang	55	35	6/7/91
	J	5,214,019	5/25/93	Nalette, et al.	502	400	2/24/92
	K	5,256,172	10/26/93	Keefer	423	230	4/17/92

**FOREIGN PATENT DOCUMENTS**

	Document Number	Date	Country	Class	Subclass	Translation
						Yes No

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)**

L	Publication No.: 2003/0047488A1, Published 3/13/03; Takehira, et al.; Catalyst For Reacting Hydrocarbon With Steam and Process for Producing Hydrogen from Hydrocarbon
M	J.J. Berzelius; Complex or Double Salts with Magnesium Carbonate; MAGNESIUM, V. 4, 1922-1937; <b>no date given</b>
N	Iretskii, et al.; Bimontly Report for Improved CO <sub>2</sub> Adsorbent; December, 2000
O	Bellotto, et al.; A Reexamination of Hydrotalcite Crystal Chemistry; J. Phys. Chem.; 1996; 100, 8527-8534
P	Sels, et al.; Hydrotalcite-Like Anionic Clays in Catalytic Organic Reactions; Catalysis Reviews, 43(4); 443-488; 2001
Q	Bellotto, et al.; Hydrotalcite Decomposition Mechanism; A Clue to the Structure and Reactivity of Spinel-like Mixed Oxides; J. Phys. Chem.; 1996; 100; 8535-8542

\* EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

EXAMINER'S SIGNATURE:

/Frank Lawrence Jr/

DATE CONSIDERED:

05/07/2008

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Form PTO-1449	Attorney/Agent No. <b>62020-1800</b>	Serial No. <b>10/518,188</b>
<b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)	Applicant <b>WHITE, et al.</b>	
	Filing Date <b>December 16, 2004</b>	Group <b>TBA</b>

## U.S. PATENT DOCUMENTS

Examiner Initials	Item	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	R	5,520,894	5/28/96	Heesink, et al.	423	230	6/30/93
	S	5,454,968	10/3/95	Nalette, et al.	252	192	11/8/90
	T	5,681,503	10/28/97	Nalette, et al.	252	192	6/7/95
	U	5,980,856	11/9/99	Okada, et al.	423	600	11/24/97
	V	6,024,781	2/15/00	Bulow, et al.	95	101	4/17/98
	W	6,143,057	11/7/00	Bulow, et al.	95	96	4/23/99
	X	6,271,172	8/7/01	Ohashi, et al.	502	400	7/31/98
	Y	6,280,502	8/28/01	Mayorga, et al.	95	96	8/6/99
	Z	6,293,998	9/25/01	Dolan, et al.	95	96	12/11/98
	AA	6,309,445	10/30/01	Gittleman, et al.	95	96	11/18/99
	BB	6,315,973	11/13/01	Nataraj, et al.	423	418.2	4/8/96
	CC	6,432,171	8/13/02	Kumar, et al.	95	120	8/28/00
	DD	6,506,236	1/14/03	Golden, et al.	95	120	3/28/01
	EE	6,599,347	7/29/03	Kalbassi, et al.	95	10	1/24/02

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

FF	Gomes, et al.; Pressure Swing Adsorption for Carbon Dioxide Sequestration From Exhaust Gases; Separation and Purification Technology 28 (2002); 161-171
GG	Hasegawa, et al.; The Separation of CO <sub>2</sub> using Y-type Zeolite Membranes Ion-Exchanged with Alkali Metal Cations; Separation and Purification Technology; 22-23 (2001); 319-325
HH	Takamura, et al.; Evaluation of Dual-Bed Pressure Swing Adsorption for CO <sub>2</sub> Recovery From Boiler Exhaust Gas; Separation and Purification Technology 24 (2001); 519-528
II	Allada, et al.; Thermochemistry and Aqueous Solubilities of Hydrotalcite-Like Solids; Science; Vol. 296, Issue 5568, 2002; p 721
JJ	Sanchez-Camazano, et al.; Hydrotalcites and Organo-Hydrotalcites as Sorbents for Removing Pesticides From Water; Journal of Environmental Science & Health, Vol. B33; Issue 3, 1998; p 509
KK	Gambini, et al.; CO <sub>2</sub> Emission Abatement From Fossil Fuel Power Plants by Exhaust Gas Treatment; Journal of Engineering For Gas Turbines & Power, Vol. 125; Issue 1; 2003; p 365

\* EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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